

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) An antenna device for a portable radio communication device operable in at least a first and a second frequency band, the antenna device comprising:

a first electrically conductive radiating element having a first edge, a feeding portion connectable to a radio frequency feed device of the radio communication device and a grounding portion connectable to a ground device;

a second electrically conductive radiating element having a first edge and a second edge;

a controllable switch comprising a diode between the first edge of the first radiating element and the first edge of the second radiating element for selectively interconnecting and disconnecting the radiating elements, the state of the switch being controlled by means of a control voltage input; and

a passive filter comprising a resistor and electrically connected directly to only arranged between the second edge of the second radiating element and the control voltage input such that the filter has purely resistive impedance, wherein the filter is arranged to block radio frequency signals when a current level through the diode is between about 5 millamps and about 15 millamps such that the diode is conductive and electrically interconnecting the radiating elements.

2. (Currently Amended) The antenna device according to claim 1, wherein the switch comprises a PIN diode state of the switch is controlled for transmitting and receiving signals in the first frequency band and for transmitting and receiving signals in the second band.

3. (Previously Presented) The antenna device according to claim 1, wherein the filter is a low pass filter blocking signals at frequencies equal to and higher than the lower frequency band of said at least a first and a second frequency bands.

4. (Previously Presented) The antenna device according to claim 1, wherein the filter is a band stop filter blocking signals in both a lower and a higher frequency band of said at least a first and a second frequency bands.

5. (Previously Presented) The antenna device according to claim 1, wherein the first radiating element has a configuration that provides for more than one resonance frequency.

6. (Previously Presented) The antenna device according to claim 1, wherein at least one of the first and second radiating elements comprises a protruding portion, and wherein the switch is connected to the protruding portion.

7. (Previously Presented) The antenna device according to claim 1, comprising a generally planar printed circuit board, wherein the first and second radiating elements and the switch are arranged generally parallel to and spaced apart from the printed circuit board.

8. (Currently Amended) The antenna device according to claim 1, wherein: ~~the switch comprises a diode; and the filter is electrically connected directly to only the second radiating element and the control voltage input, thereby allowing~~ the state of the diode is controllable to be controlled by using the electrical current running through the second radiating element.

9. (Currently Amended) The antenna device according to claim 1, wherein the filter is integrated with the second radiating element ~~and/or the antenna device has a volume less than 3 cm³~~.

10. (Currently Amended) A portable radio communication device, comprising a generally planar printed circuit board and an antenna device connected to a radio frequency feed device with electronic circuits provided for transmitting and/or receiving RF signals, and a ground device, wherein the antenna device comprises:

a first electrically conductive radiating element having a first edge, a feeding portion connected to the radio frequency feed device of the radio communication device and a grounding portion connected to the ground device;

a second electrically conductive radiating element having a first edge and a second edge;

a controllable switch comprising a diode arranged between the first edge of the first radiating element and the first edge of the second radiating element for selectively interconnecting and disconnecting the radiating elements, the state of the switch being controlled by means of control voltage input; and

a passive filter comprising a resistor and arranged between electrically connected directly to only the second edge of the second radiating element and the control voltage input such that the filter has a purely resistive impedance, and wherein the filter is arranged to block radio frequency signals when a current level through the diode is between about 5 millamps and about 15 millamps such that the diode is conductive and electrically interconnecting the radiating elements.

11. (Currently Amended) The antenna device according to claim 1, wherein the filter does not include any capacitors or inductors and and/or the filter includes only the resistor.

12. (Previously Presented) The antenna device according to claim 1, wherein the filter is substantially coplanar with the second edge of the second radiating element.

13. (Previously Presented) The antenna device according to claim 1, wherein the resistor is a pure resistor, and wherein the filter consists only of the pure resistor such that the impedance of the filter is entirely purely resistive.

14. (Previously Presented) The antenna device according to claim 1, wherein the control voltage input is connected to the second radiating element by the filter, wherein the first radiating element comprises a generally planar rectangular element having a pair of opposing short edges and a pair of opposing long edges, wherein the first edge is one of the opposing short edges, and wherein the feeding portion and grounding portion are arranged at the other one of the opposing short edges.

15. (Previously Presented) The antenna device according to claim 1, wherein only the filter is arranged between the second radiating element and the control voltage input, such that there are no inductors or capacitors arranged between the second radiating element and the control voltage input.

16. (Previously Presented) A portable radio communication device comprising the antenna device according to claim 1.

17. (Currently Amended) The portable radio communication device according to claim 10, wherein the filter does not include any capacitors or inductors and and/or the filter includes only the resistor.

18. (Currently Amended) The portable radio communication device according to claim 10, wherein: ~~the switch comprises a diode; and the filter is electrically connected directly to only the second radiating element and the control voltage input, thereby allowing~~ the state of the diode is controllable to be controlled by using the electrical current running through the second radiating element.

19. (Currently Amended) A method of operating an antenna device in a portable radio communication device operable in at least a first and a second frequency band, the antenna device including a first electrically conductive radiating element having a first edge, a feeding portion connectable to a radio frequency feed device of the radio communication device and a grounding portion connectable to a ground device; a second electrically conductive radiating element having a first edge and a second edge,

a controllable switch comprising a diode between the first edge of the first radiating element and the first edge of the second radiating element for selectively interconnecting and disconnecting the radiating elements, the state of the switch being controlled by means of a control voltage input, the method comprising filtering the control voltage input with a passive filter having a purely resistive impedance and coupled between electrically connected directly to only the second edge of the second radiating element and the control voltage input, whereby the passive filter is operable for blocking radio frequency signals when a current level through the diode is between about 5 millamps and about 15 millamps such that the diode is conductive and electrically interconnecting the radiating elements.

20. (Previously Presented) The method of claim 19, wherein the filter includes only a pure resistor, and wherein filtering the control voltage input includes filtering the control voltage input only with the pure resistor, without using any capacitors or inductors.